ABSTRACT

In consideration of N-dimensional similarity, a multiparameter high precision concurrent estimation method and a multiparameter high precision concurrent estimation program in image subpixel matching, which can estimate a correspondence parameter between images precisely, concurrently, and stably with a small amount of computation at high speed.

The method comprises the steps of: determining a sub-sampling position where the N-dimensional similarity value between images obtained at discrete positions is maximum or minimum on a line in parallel with a certain parameter axis, and determining an N-dimensional hyperplane that most approximates the determined sub-sampling position; determining N of the N-dimensional hyperplanes with respect to each parameter axis; determining an intersection point of N of the N-dimensional hyperplanes; and setting the intersection point as a sub-sampling grid estimation position for the correspondence parameter between images that gives a maximum value or a minimum value of N-dimensional similarity in the N-dimensional similarity space.